22300

S/035/61/000/005/019/042
A001/A101

Excitation of helium in the chromosphere ...

tions show that optimum conditions for the emergence of line λ 4686 arise at $T_e \geqslant 50{,}000^\circ K$. At $50{,}000^\circ < T < 100{,}000^\circ K$ is obtained $10^7 < n_e < 10^9$ cm^{-3}. There are 14 references.

R. Gulyayev

[Abstracter's note: Complete translation]

X

Card 3/3

KRAT, V.A.

Stellar evolution. Part 3. Izv.GAO 21 no.4:106-118 '60.
(Stars) (MIRA 14:1)

88915

S/025/60/000/012/002/006
A166/A026

3,1540 (1062,1128,1168)

AUTHOR: Krat, V.A. Doctor of Physics and Mathematics; Professor

TITLE: Physics of the Sun 27-

PERIODICAL: Nauka i zhizn', 1960, No. 12, pp. 12 - 17

TEXT: Accurate measurements by A.B. Severnyy and V.Ye. Stepanov at the Krymskaya astrofizicheskaya observatoriya (Crimean Astrophysical Observatory), and by L.M. Kotlyarov at Pulkovo indicate that there is no general magnetic field on the Sun's surface. Instead, there are many magnetic poles of different polarity, the strongest of which coincide with the sunspots. According to the Hungarian astronomer Czada, this medial magnetic field is not similar to a dipole field. Each solar hemisphere is an independent magnetic field, one pole of which coincides with the solar pole, while the other magnetic "pole" is in fact a magnetized ring of opposite polarity around the Sun's equator. Indications are that the medial magnetic field varies with periods of differing solar activity. This tends to confirm L.E. Gurevich and A.I. Lebedinskiy's theory that the medial magnetic field and the magnetic fields of the sunspots are caused by the movement of gaseous masses deep within the Sun. Scientists can now follow depth processes from maps

Card 1/3

S/025/60/000/012/002/006
A166/A026

Physics of the Sun

of the magnetic fields on the surface of the Sun. At Pulkovo, the Soviet astronomer Yu.I. Vitinskiy recently proved irrefutably the presence of active longitudes on the Sun. Special measurements carried out by geophysical rockets in the ionosphere have shown that increased ionization of the ionosphere's gases during chromospheric flares is mainly due to increased X-ray, and not ultraviolet, radiation, although the latter is also increased. Working at the Crimean Astrophysical Observatory, E.R. Mustel' and A.B. Severnyy found that in places where the flare was visible, there were no special circumstances favoring the formation of streams of fast particles and X-ray radiation. The strongest hydrogen lines were situated towards the invisible ultraviolet end of the spectrum. In 1951, however, Severnyy noted the appearance of a stream of corpuscles from a typical flare. Observations at Pulkovo and the Crimean Astrophysical Observatory show that the gas in chromospheric flares streams downwards into the photosphere, although the flare itself develops upwards. Recently, at the Gornaya astronomicheskaya stantsiya (Mountain Astronomical Station) near Kislovodsk, the wives of M.N. and R.S. Gnevyshev observed very rarefied "cold" clouds in the coronal condensation which surrounds chromospheric flares. The current theory is that flares are the result of rapid compression and cooling of hot gas, accompanied by the appearance of shock waves, as in normal explosions. In Severnyy's opinion, this compression occurs as a result

88915
S/025/60/000/012/002/006
A166/A026

Physics of the Sun

of sudden changes in the Sun's magnetic fields. The astronomer B.M. Rubashev at Pulkovo and geophysicist L.R. Rakipova of the Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory) have constructed a theory on the effect of solar phenomena on the Earth's climate. Ultraviolet radiation and X-ray radiation from the flares are completely absorbed by the atmosphere at heights above 100 km and do not penetrate the troposphere where the weather is formed. This absorption causes considerable heating whose effect, though diminished, will spread to lower levels and can influence the state of the air masses in the troposphere sufficiently to affect the weather. E.R. Mustel' and O.N. Mitropol'skaya have found that areas of large accumulation of solar faculae emit streams of comparatively slow corpuscles which travel towards Earth at a few hundred km per second. A.B. Severnyy has also detected deuterium lines in the spectra of chromospheric flares, indicating that they may be accompanied by nuclear reactions.

ASSOCIATION: Glavnaya astronomicheskaya observatoriya AN SSSR (Main Astronomical Observatory of the AN USSR)

Card 3/3

S/035/62/000/006/014/064
A001/A101

AUTHOR: Krat, V. A.

TITLE: Helium emission from a sunspot and formation of coronal condensations

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 55, abstract 6A408 ("Solnechnyye dannyye", 1961, no. 4, 55-58)

TEXT: The D_3 helium emission line was observed on April 5, 1960, in spectrum of a large sunspot in group No. 114 (according to numbering in "Solnechnyye dannyye"). The spectrum was photographed by the author from 6^h05^m to 6^h40^m UT. Afterward the D_3 emission weakened and then disappeared. On the following day this emission was observed again by V. M. Sobolev from 6^h25^m to 6^h55^m. The λ 3889 helium line was not visible, which apparently is explained by mutual compensation of the emission and absorption profiles. On April 5, lines H_α, H_γ, H_δ, H_9 and H and K were photographed in addition to the D_3 line. The lines of hydrogen and ionized calcium revealed the downward movement of these gases at a speed of 2 km/sec in the sunspot nucleus and 5 km/sec over the

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S/035/62/000/006/014/064
A001/A101

Helium emission from a sunspot ...

penumbra. Moreover, the upward movement of gas condensation at a speed of 65 km/sec was observed for both elements. In the D_3 line the upward movement was observed at 9.2 km/sec on April 5 and at 10.7 km/sec on April 6. Thus simultaneously hot gas masses (including helium) were moving upwards and colder masses downwards. According to Waldmeier's observations, which became known later on, a coronal arc was observed in line λ 5694 above the mentioned sunspot group on April 5, and somewhat below - in line λ 5303, and still lower - emission in H_α.

M. Gnevyshev

[Abstracter's note: Complete translation]

Card 2/2

33618
S/035/62/000/002/007/038
A001/A101

3,1540 (also 1137)

AUTHORS: Krat, V. A., Krat, T. V.

TITLE: On physics of the solar chromosphere

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 1, 1962, 55, abstract 1A422 ("Izv. Gl. astron. obzerv. v Pulkove", 1961, v. 22, no. 2, 6-51, Engl. summary)

TEXT: This is a concluding article of the cycle of studies dealing with the analysis and interpretation of the chromospheric spectrum. Fundamentals of the method of profile analysis are presented. It is assumed that faculae in the chromosphere consist of two quasi-homogeneous components. As a result of analysis of spectra, conclusions have been drawn on the causes of hydrogen atom excitation, and on possibility of existence of dark prominences. The problem was investigated on the $L\alpha$ emission field and on intensity of the D_3 line which is considerably brighter over facula areas. Appearance of emission helium lines on the solar disk is discussed. Data of the Pulkovo simultaneous observations of chromospheric spicules in $H\alpha$ and D_3 are presented. Apparently these lines are produced in different places. Visible movements of spicules are explained by

Card 1/2

33618

On physics of the solar chromosphere

S/035/62/000/002/007/038
A001/A101

propagation of condensation process of the coronal gas in the spicules. Calcium emission in the spicules is investigated. Spicules proper are considered to be weak chromospheric flares. There are 32 references.

E. Dubov

[Abstracter's note: Complete translation]

Card 2/2

3.1540
3.1520

S/035/62/000/005/047/098
A055/A101

AUTHOR: Krat, V. A.

TITLE: On the movement of solar granules

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 50 - 51, abstract 5A378 ("Izv. Gl. observ. v Pulkove", 1961, 22, no. 4, 2 - 8, English summary)

TEXT: Data on the movement of solar granules were obtained in Pulkovo, in 1958 - 1960, with the aid of the solar telescope and the new diffraction spectrograph. The absence of local refractions within the tube of the spectrograph (this was provided for in the design) permits its use for measuring small distortions of spectral lines, caused by Doppler shifts in the spectrum of individual granules. In 1960, it proved possible, for the first time, to obtain good spectrograms of granules of ~1 - 1".5 in size. All the spectrograms were obtained in the first focus of the telescope (F = 17.5 m). On the photographs, only spectra of granule groups and of "second" granules could be seen; the spectra of finer granules were washed off by atmospheric vibration. The measurements of the spec-

Card 1/3

On the movement of solar granules

trograms yielded the following results: 1) From weak Fraunhofer lines, the relative (with respect to the intergranular background) radial velocities v_r of "second" granules prove to be the smallest. Their upper limit is ±200 m/sec. 2) From Fraunhofer lines with Roland intensity 4 - 7, the upper limits of v_r of the granules is ±300 m/sec, and, in isolated cases, ±500 m/sec. 3) From lines D_1 and D_2, v_r can attain ±2 km/sec. 4) For the majority of the granules and groups of granules, v_r has the minus sign. In many reliable cases, however, individual granules, lying near each other, have v_r or opposite signs. In the majority of cases, the highest v_r are observed at the boundary between the granule and the intergranular background. The brightness of the granules in the Cassegrain focus of the telescope ($D\odot$ = 60 cm) was, on the average, a fraction of the disk center mean brightness, this for a photometer diaphragm diameter of 0.04 mm. The "second" granules proved by 3 - 4% brighter than the intergranular background, which is not uniform and undergoes fluctuations of 3 - 6% from its mean value. The greatest contrast pertains to groups of granules with ~4" half-width. Their brightness is, on the average, by 5 - 6% greater than the background brightness. In accordance with this, the "granule-background" temperature difference does not exceed 100°K, and is even only 50 - 60°K for the "second" granules. Con-

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On the movement of solar granules

S/035/62/000/005/047/098
A055/A101

siderations are set forth, advocating the interpretation of granulation as magnetohydrodynamical waves. This interpretation implies, however, the existence in the photosphere, at the convective zone level, of an azimuthal or turbulent field with a strength of several hundreds of gauss. It is shown that the concept of undulatory processes in the photosphere can explain, not only the heating of the granules and the existence of granules of various sizes, but also the connection between granulation and solar activity. There are 12 references.

From the author's summary

[Abstracter's note: Complete translation]

Card 3/3

AGEKYAN, T.A.; VORONTSOV-VEL'YAMINOV, B.A.; GORBATSKIY, V.G.; DEYCH, A.N.; KRAT, V.A.; MEL'NIKOV, O.A.; SOBOLEV, V.V.; MIKHAYLOV, A.A., otv. red.; KULIKOV, G.S., red.; AKSEL'ROD, I.Sh., tekhn. red.

[Course on astrophysics and stellar astronomy]Kurs astrofiziki i zvezdnoi astronomii. 2. izd. Moskva, Fizmatgiz. Vol.2. [By]T.A. Agekian i dr. 1962. 688 p. (MIRA 16:1)
(Astrophysics) (Stars) (Nebulae)

37469

S/259/62/000/002/001/001
1001/1201

3.1540

Author: Krat, V., Professor, Doctor of Physical and Mathematical Sciences.

Title: EXPLOSIONS IN THE SUN

Periodical. *Nauka i Tekhnika*, no. 2, 1962, 1-2

Text: Soviet astronomer A. B. Severnyy and his staff at the Crimean astrophysical observatory discovered a short duration luminescence in the chromospheric flashes of the sun which has been observed in the spectrum lines of hydrogen, ionized calcium and sometimes helium ("whiskers"); luminescence also appears in small strips in the continuous spectrum. According to Severnyy it can produce no hot gas. The gas of the flash is an electric plasma, unstable in the magnetic field of a group of sun spots. The plasma undergoes a compression of its own, in a couple of seconds the temperature rises to 10,000,000°C, and thermonuclear reactions become possible. The compression of the plasma produces powerful explosions in the shape of chromospheric flashes. The structure of magnetic fields in the sun is now carefully studied at the Crimean observatory by means of a magnetograph. Illustrations: 3 photographs.

X

Card 1/1

KRAT, V.A., prof.

Photosphere of the sun. Priroda 51 no.11:41-46 N '62.
(MIRA 15:11)

1. Glavnaya astronomicheskaya observatoriya AN SSSR (Pulkovo).

(Sun)

VITINSKIY, Yuriy Ivanovich; KRAT, V.A., prof., otv. red.; BARKOVSKIY, I.V., red. izd-va; ZAMARAYEVA, R.A., tekhn. red.

[Forecasting solar acitivity]Prognozy solnechnoi aktivnosti, Moskva, Izd-vo Akad. nauk SSSR, 1963. 150 p. (MIRA 16:2)
(Sunspots)

ACCESSION NR: AT4012198 S/2797/63/023/002/0017/0027

AUTHOR: Krat, V. A.; Pravdyuk, L. M.

TITLE: Appearance of nonthermal continuous emission in the solar atmosphere

SOURCE: Pulkovo, Astron. observ. Izvestiya, v. 23, no. 2 (173), 1963, 17-27

TOPIC TAGS: astronomy, sun, nonthermal emission, chromosphere, chromospheric flare, Fraunhofer line, radiation, radiation density, solar physics, Balmer line, continuous spectrum, solar prominence, bremsstrahlung, synchrotron radiation, thermal radiation, flocculus, solar activity, absorption line, photosphere, hydrogen emission, excitation mechanism

ABSTRACT: An unusual chromospheric flare, accompanied by intense emission in the continuous spectrum, was observed in the region of a bright prominence near the east limb of the sun ($\varphi = -15°, \lambda = 133°$) on 30 August 1958. The spectral regions of the H_8, H_9, H and K, $H\gamma$, D_3 and $H\alpha$ lines have been studied. The Fraunhofer metal lines do not show any variations in the emission zone. The strong diffusion of emission core images indicates a considerable optical depth of the emission sources, since the greater part of the radiation of the emission core is scattered and reradiated in the photosphere. The effective optical depth of the cores in the direction along the solar radius is $\tau \approx 0.3$. Of the four

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ACCESSION NR: AT4012198

emission bands observed (two bands on each pair of plates); one is due to electron bremsstrahlung, another to synchrotron radiation and two to thermal radiation, which undoubtedly was initially either bremsstrahlung or synchrotron radiation (the latter two cores apparently were at a greater depth than the first two). The thermal radiation corresponds to a spectrophotometric temperature of about 6000°. The appearance of short-lived synchrotron radiation with an attentuation time of less than one minute indicates that at the place of its development the field strength is $H \approx 60$ oersteds. The H and K lines above the entire group of emission cores form a bright extended flocculus. If the absorption line was not at the center of the line profile the flocculus would be twice as bright as the continuous background. An evaluation of the CaII concentration reveals that a flocculus develops in the chromosphere above emission cores. Radiation of the deeper layers is screened completely. In the wings of the $H\gamma$ and $H\alpha$ lines no deviations from the profiles of these lines are noted in the undisturbed photosphere. It is possible that they are compensated by the continuous emission spectrum. In the central Doppler core of the Balmer lines there is an appreciable increase of absorption, corresponding to an increase in the number of hydrogen atoms in the second energy level by a factor of at least two. This requires an increase in radiation temperature (corresponding to the given radiation density) of only 300-500°. The difference in the behavior of the H and K lines can be attributed to a gas electron temperature not exceeding 6000°. Under these conditions the excitation of atoms

Card 2/3

ACCESSION NR: AT4012198

by electron collisions is effective for CaII, but not for hydrogen, whose atoms are excited from the second level by photospheric radiation. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: GLAVNAYA ASTRONOMICHESKAYA OBSERVATORIYA, PULKOVO (Main Astronomical Observatory)

SUBMITTED: 00 DATE ACQ: 27Feb64 ENCL: 00

SUB CODE: AS NO REF SOV: 006 OTHER: 002

Card 3/3

ACCESSION NR: AT4012200 S/2797/63/023/002/0042/0046

AUTHOR: Krat, V. A.; Stoyanova, M. N.

TITLE: Excitation of sodium and helium atoms and calcium ions (Ca II) in an active prominence.

SOURCE: Pulkovo. Astron. observ. Izvestiya, v. 23, no. 2(173), 1963, 42-46

TOPIC TAGS: solar prominence, spectral line, sodium spectral line, helium spectral line, hydrogen spectral line, potassium spectral line, calcium spectral line, electron temperature, electron concentration, electron turbulent velocity

ABSTRACT: The H, K, CaII, sodium D_1 and D_2 and helium D_3 lines were studied spectrophotometrically on an active prominence observed May 7, 1960. It was found that excitation originated from photospheric radiation in almost all of the clusters examined. The electron temperature (T_e) and concentration (n_e) were estimated for the two cases in which electron impact seemed to be essentially responsible for the excitation. Spectral contours are shown which indicate that sodium and helium incandescence occurs in a multitude of gaseous filament accumulations. The T_e and turbulent velocity in "calcium" clusters differ from those in "sodium" clusters. Orig. art. has: 2 spectrograms, 2 graphs, 2 tables and 11 formulas.

Card 1/2

ACCESSION NR: AT4012200 S/2797/63/023/002/0042/0046

AUTHOR: Krat, V. A.; Stoyanova, M. N.

TITLE: Excitation of sodium and helium atoms and calcium ions (Ca II) in an active prominence.

SOURCE: Pulkovo. Astron. observ. Izvestiya, v. 23, no. 2(173), 1963, 42-46

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Card 1/1

L 24525-65 FIB/EWT(l)/EWG(v)/FCC/EWA(d)/EEC-4/EEC(t) Fo-4/Pe-5/Pq-4/Pae-2/Pt-10/
Pl-4 SSD(a)/AFWL/SSD(b)/SSD/BSD/RAEM(a)/AFETR/ESD(t) GW/WS
ACCESSION NR AM4040598 BOOK EXPLOITATION S/

Vyazanitsyn, V. P.; Gnevyshev, M. N.; Dobrovol'skiy, O. V.; Krat, V. A.; Markov, A. V.; Molchanov, A. P.; Sobolev, V. M.; Sharonov, V. V.

A course in astrophysics and stellar astronomy. v. 3 (Kurs astrofiziki i zvezdnoy astronomii. t. 3), Moscow, Izd-vo "Nauka", 1964, 375 p. illus., biblio., indices. 2,150 copies printed.

TOPIC TAGS: astrophysics, stellar astronomy

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7

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SUB CODE: AA SUBMITTED: 18Feb64 NR REF SOV: 135

OTHER: 107

Card 2/2

RUBASHEV, Boris Maksimovich; KRAT, V.A., prof., otv. red.; BARKOVSKIY, I.V., red.izd-va; KRUGLIKOVA, N.A., tekhn. red.

[Problems of solar activity] Problemy solnechnoi aktivnosti. Moskva, Izd-vo "Nauka," 1964. 361 p.
(MIRA 17:3)

L 39939-65 EEC-4/EWG(v)/EWT(1)/EEC(t) Pe-5/Pq-4 GW

ACCESSION NR: AT5003863 S/2797/64/023/005/0021/0027

AUTHOR: Krat, V. A.

21
B+1

TITLE: Contours of spectral lines in the solar chromosphere. I

SOURCE: Pulkovo. Glavnaya astronomicheskaya observatoriya. Izvestiya, v. 23, no. 5, 1964, 21-27

TOPIC TAGS: radiation transfer, chromosphere, radiation density, electron concentration, radiation diffusion, light dispersion, optical depth, integral equation, resonance line

ABSTRACT: The study of the transfer of radiation in the chromosphere is based on the real distribution of the temperature, radiation density, electron concentration, and the gas density. Correct values of these parameters can be obtained by the diffusion of radiation in incoherent dispersion of light when the optical depth of the center of the line and the source function are taken into consideration. A differential equation of the radiation intensity is developed, the solution of which is obtained in the form of an integral equation. The integral equation can be transformed and solved by the method of Voltaire's equations. The analysis of the source function showed that it diminished rapidly at great optical depths on near-

Card 1/2

L 39939-65

ACCESSION NR: AT5003863

ing the edge of the chromosphere. The lower layer of the chromosphere is called the inferior chromosphere; the radiation intensity found in it occurs under complicated conditions. The resonance lines of ionized calcium H and K have very great optical depth in the inner chromosphere. The flocculi of these lines are weak. Absorptions in them vary from place to place in the chromosphere revealing the high velocities of the gas masses which produce these lines. The weak radiation of lines is caused by a slowdown in the radiation diffusion. Orig. art. has: 1 figure and 36 formulas.

[EG]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: AA

NO REF SOV: 006 OTHER: 001 ATD PRESS: 3186

Card 2/2 pb

KRAT, V.A. (Pulkovo)

Solar physics at Pulkovo. Izv. GAO 24 no.1:3-11 '64.

Excitation of CaII ions in prominences and chromospheric formations. Ibid.:57-59
(MIRA 18:3)

L 36294-65 EWT(l)/EWP(m)/EPA(sp)-2/EWG(v)/EWA(d)/EEC-4/EPR/EPA(w)-2/
EEC(t)/T-2/ WA(m)-2 Pd-1/Pab-10/Pe-5/Pq-4/Ps-4/Pi-4 IJP(c) GW

ACCESSION NR: AP5008089 UR/0030/65/000/002/0085/0086

AUTHOR: Krat, V. A. (Doctor of physico-mathematical sciences)

TITLE: Conference on Solar Physics and Magnetohydrodynamics in Space

SOURCE: AN SSSR. Vestnik, no. 2, 1965, 85-86

TOPIC TAGS: astronomic conference, magnetism conference, solar magnetic field, solar flare, solar chromosphere, solar photosphere, sunspot, magnetohydrodynamics

Abstract: Scientists from the SSSR, East Germany, Hungary, Poland, Rumania, and Czechoslovakia participated in a conference of astronomers and physicists which took place in Tatranska Lomnice (Czechoslovakia), 13-16 October 1964. The basic purpose of this conference was the investigation of physical solar processes, with the plasma character of the solar gas taken into consideration. Attention was focused on solar magnetic fields and magnetohydrodynamics. (Solar plasma is presently being studied by groups of theorists in East Germany and Poland. Hungarian and Czechoslovakian astronomers are working on the problem of the application of magnetohydrodynamics in studying the sun.)

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On the basis of U.S. experimental data, I. Csada (Hungary) showed that the character of the solar magnetic field is irregular and that changes in the solar magnetic field depend upon the motion of plasma in which there are "frozen" magnetic fields. It was shown that considerable deviations in the shape of the force lines of the solar magnetic field can be observed from those computed theoretically on the basis of a magnetic dipole theory.

V. A. Krat (SSSR) reported on investigations of the magnetic fields of the photosphere and the chromosphere, conducted at Pulkova in 1963. A basic result of these studies was the positive findings on the regular character of the magnetic field of the solar photosphere as compared to the irregular and inhomogeneous field of the chromosphere. It was possible to show that inhomogeneity of the magnetic field of the chromosphere can be the result as well as the cause of the turbulency of the chromosphere gas.

An "active discussion" followed the presentation of papers by M. Konetskiy and A. Antalova (Czechoslovakia) on a hypothesis of M. N. Gnevyshev (SSSR) Gnevyshev questioned the generally accepted opinion on the gradual "sliding" of the sunspot zone toward the equator and expressed the opinion

L 36294-65
ACCESSION NR: AP5008089

that in one 11-year cycle of solar activity there are two phases of sunspot activity, one when sunspots appear in the higher latitudes and the other when they appear in the lower latitudes. A number of arguments supported this hypothesis; however, the problem is considered to be not yet resolved.

There was also "considerable interest" in a paper by Z. Svestka (Czechoslovakia) on chromospheric flares. He proved convincingly that these flares are composed of gas layers of different temperatures and densities.

Soviet observatories and those of the Soviet-bloc countries are cooperating in studies of rapid changes of solar magnetic fields in order to discover the cause of chromospheric flares. Joint observations will be conducted from 1 May to 1 September 1965. The next conference on magnetic hydrodynamics and solar physics will be held in Poland.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: AA, EM

NO REF SOV: 000 OTHER: 000 FSB v. 1, no. 5

Card 3/3 jb

L 41377-66 EWT(1)

ACC NR: AT6020488 SOURCE CODE: CZ/2514/65/000/051/0022/0023

AUTHOR: Krat, V. A.

ORG: Pulkovo Observatory

TITLE: The magnetic field and motion of gases in the solar atmosphere

SOURCE: Ceskoslovenska akademie ved. Astronomicky ustav. Publikace, no. 51, 1965. 3rd Consultation on Solar Physics and Hydromagnetics, Tatranska Lomnica, 13-16 October 1964, 22-23

TOPIC TAGS: chromosphere, photosphere, sunspot, solar magnetic field, magnetograph, solar atmosphere/Kotljar automatic magnetograph

ABSTRACT: Observations are reported of magnetic fields in the chromosphere and photosphere made with the Kotljar automatic magnetograph; the results obtained are presented. The existence of regular photospheric magnetic fields deformed by gravity-sound waves was found. No indication of large-scale wave motion was found in the chromosphere. The magnetic-energy density in the so-called hydrogen elements of the chromosphere is 35 times larger than in the photosphere. The magnetic field

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L 41357-66

ACC NR: AT6020488

of a sunspot in the chromosphere is usually far removed from the position of the sunspot in the photosphere; the values of displacement range from 0 to 17 sec. The magnetic field of sunspots appears to penetrate the chromosphere in curved streams of matter. The mean gradient of the magnetic field in the low chromosphere above the sunspots obtained from H_{max} and from the broadening of the field profile in the chromosphere as compared with the photospheric field is 1.2 oe/km. In all computations made during observation, only the maxima of the sight-line component near the center of the disk were used. The size of the elements with a maximum field for which energy estimates were made is about 30 sec in both the photosphere and the chromosphere. The inaccuracy in measuring the transverse component of magnetic field intensity permits simultaneous use of both field components in the case of a weak magnetic field. The full test of the article will appear in the publication no. 76 of Pulkovo Observatory. [GC]

SUB CODE: 03~~,03,04,20~~/ SUBM DATE: none/ ORIG REF: none/ SOV REF: none/ OTH REF: none/

Card 2/2 11b

ACC NR: AR6034896 SOURCE CODE: UR/0269/66/000/008/0051/0051

AUTHOR: Krat, V. A.; Petrova, N. N.

TITLE: Wave motions in solar photosphere

SOURCE: Ref. zh. Astronomiya, Abs. 8.51.422

REF SOURCE: Solnechnyye dannyye, no. 10, 1965, 48-50

TOPIC TAGS: solar photosphere, photoelectric method, scintillation, monochromatic scintillation, image vibration

ABSTRACT: The results of observations of photospheric granulation made with a Hilger quartz spectrograph which was installed at the focus of the main mirror of the horizontal telescope of the Main Astronomic Observatory at Pulkovo are given. At low dispersion, the spectrograph made it possible to obtain a spectrum in the Å 3000—7000 range. The result of the photoelectric observations of photospheric granulation confirm the dependence of the granulation picture on the wavelength. It is stressed that this conclusion does not depend on the influence of monochromatic scintillations, image vibration or atmospheric dispersion. The photos show clearly large photospheric formations (3—10") seen only on the blue or only on the red end

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UDC: 523.743

ACC NR: AR6034896

of the observed sector of the continuum. In conclusion, the authors speak of the necessity of revising the photosphere model, above all the values of gradient T in the photosphere. According to the authors, it will then become possible to correlate the geometric depth of the photosphere with the wave nature of the granules which appears in the observed dependence of the continuous spectrum radiation on the continuum wavelength. G. Vasil'yeva. [Translation of abstract]

SUB CODE: 03/

Card 2/2

L 09455-67 EWT(1) GW
ACC NR: AR6019477 SOURCE CODE: UR/0269/66/000/002/0053/0054

AUTHOR: Vyal'shin, G. F.; Krat, V. A.
ORG: none
TITLE: Magnetic fields in the solar chromosphere
SOURCE: Ref. zh. Astronomiya, Abs. 2.51.429
REF SOURCE: Izv. Gl. astron. observ. v Pulkove, v. 24, no. 2, 1965, 26-34

TOPIC TAGS: solar chromosphere, magnetic field, photosphere, telescope, hydrogen, helium, electron temperature

ABSTRACT: The longitudinal intensity components of magnetic fields (H) and the radial velocities (v) were determined at Pulkovo Observatory from the Hβ line with the aid of the Pulkovo solar magnotograph in a horizontally mounted solar telescope during July-September 1963. Observations were conducted using the incoming slit measuring 1".2 x 5".9 on the solar disk. Fluctuations of about 30", characteristic both for the photosphere and the chromosphere, were investigated. The fluctuation range of H for the chromosphere was approximately 5 times as great as that for the photosphere. Thus, H for the chromospheric "hydrogen" elements was appreciably greater than for the nonperturbed atmosphere. This, however, did not necessarily mean that H in the chromosphere was always greater than in the photosphere. V. Yo. Stepanov's observations lend evidence that for the coldest, "metallic" chromospheric elements, with the electron temperature of $T_e < 7500$C, H decreased, as the distance h above the level of the photosphere increased. For "helium" elements ($T_e \geq 20{,}000$C) H could not be determined at present. Traces of H and v quite frequently exhibited a parallel or antiparallel rela-

Card 1/2

UDC: 523.745+523.75

L 08655-67
ACC NR: AR6019477

tionship, giving additional evidence of the magnetic field being "frozen in" in the gas in case of characteristic dimensions of about 30" on the disk and of large-scale wave processes in the photosphere. The gradient of the magnetic field of spots in the lower chromosphere (up to h ≈ 1000 km) was 1.2 e/km.

SUB CODE: 03/ SUBM DATE: none

Card 2/2

ACC NR: AR6019479 SOURCE CODE: UR/0269/66/000/002/0056/0056

AUTHOR: Krat, V. A.

TITLE: Contours of spectral lines of the solar chromosphere. Part 2. Facular plages in the H and K lines

SOURCE: Ref. zh. Astronomiya, Abs. 2.51.440

REF SOURCE: Izv. Gl. astron. observ. v Pulkove, v. 24, no. 2, 1965, 19-25

TOPIC TAGS: solar chromosphere, spectral line, solar facula, solar photosphere

ABSTRACT: This is the continuation of a paper published by the author in RZhAstr, 1965, 2.51.463. Calcium chromospheric faculae (H_2, K_2, and H_3, K_3) were studied using spectrograms obtained at Pulkovo in 1960-1963. However, only spectrograms which clearly showed objects with a halfwidth of 1".5 were used to plot the photometric profiles. All spectrograms were obtained in the III order of grating at 0.65 A/mm dispersion. The chromospheric faculae were localized in the upper chromosphere at an altitude of 0-1000 km and were not a direct continuation of the photospheric faculae. They were only statistically related to other chromospheric objects which emitted their own radiation (hydrogen faculae). Photospheric faculae could be observed not only at the edge of the disk, but also at its center with an intensity of 7-10% greater than the mean intensity of the undisturbed photosphere. These faculae were usually found

Card 1/2 UDC: 523.77

ACC NR: AR6019479

in the deep layers of the photosphere and disappeared as the active region shifted toward the edge of the disk. Typical calcium faculae measured 3-4" (halfwidth). The profiles H_2, K_2 are the profiles of the emission lines corresponding to a high optic thickness ($\tau \leq 1$) and the profiles H_3, K_3 corresponded to a low optical thickness. Chromospheric calcium faculae were characteristized by an electron concentration of $N_e = 10^{13}$ and an electron temperature of $T_e = 6000K$. The temperature of the undisturbed lower chromosphere was probably close to 5000K. The average "turbulent" Doppler velocity in calcium faculae was 15 km/sec. In the absence of hydrogen emission in the higher regions of the chomosphere, the absorption nuclei of the Balmer lines were assumed to be expanding in the areas of calcium faculae glow. In the coldest chromospheric elements with $T_e < 7500$ K, named by the author "metallic", H_3, K_3 faculae were formed. Their altitude was $h > 100$ km. Bibliography of 14 titles. /Translation of abstract/

SUB CODE: 03

Card 2/2

ACC NR: AR6019479 SOURCE CODE: UR/0269/66/000/002/0056/0056

AUTHOR: Krat, V. A.

TITLE: Contours of spectral lines of the solar chromosphere. Part 2. Facular plages in the H and K lines

SOURCE: Ref. zh. Astronomiya, Abs. 2.51.440

REF SOURCE: Izv. Gl. astron. observ. v Pulkove, v. 24, no. 2, 1965, 19-25

TOPIC TAGS: solar chromosphere, spectral line, solar facula, solar photosphere

ABSTRACT: This is the continuation of a paper published by the author in RZhAstr, 1965, 2.51.463. Calcium chromospheric faculae (H_2, K_2, and H_3, K_3) were studied using spectrograms obtained at Pulkovo in 1960-1963. However, only spectrograms which clearly showed objects with a halfwidth of 1".5 were used to plot the photometric profiles. All spectrograms were obtained in the III order of grating at 0.65 A/mm dispersion. The chromospheric faculae were localized in the upper chromosphere at an altitude of 0-1000 km and were not a direct continuation of the photospheric faculae. They were only statistically related to other chromospheric objects which emitted their own radiation (hydrogen faculae). Photospheric faculae could be observed not only at the edge of the disk, but also at its center with an intensity of 7-10% greater than the mean intensity of the undisturbed photosphere. These faculae were usually found

Card 1/2 UDC: 523.77

ACC NR: AR6019479

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SUB CODE: 03

Card 2/2

KRATASYUK, P., polkovnik; MATASHEV, A., podpolkovnik, voyennyy letchik pervogo klassa

Pilot and flight instructor. Av. i kosm. 48 no.10:17-21 O '65. (MIRA 18:11)

KRATENKO, I.M.

Attaining the rated capacity of the mine is a great resource in the growth of coal yield. Mekh trud. rab. 9 no.6:5-8 Je '55. (MLRA 8:6)

1. Nachal'nik kombinata Tulaugol'.
(Moscow Province--Coal mines and mining)

[redacted], I.K., [redacted]

Most important trends in technical progress in the coal industry. Ugol' 40 no.5:5-11 My '65. (MIRA 18:6)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta po toplivnoy promyshlennosti pri Sovete SSSR.

KRATENKO, I.M.

Use of available machinery and introduction of new designs for coal mining in the Tula economic and administrative Region. Ugol' 33 no.9:1-3 S '58. (MIRA 12:1)

1.Predsedatel' Tul'skogo sovnarkhoza.
(Tula Province--Coal mining machinery)

KRATENKO, I.M., laureat Leninskoy premii

Mechanization and automation of underground operations in a guarantee of safe working conditions for miners. Bezop.truda v prom. 5 no.9: 2-3 S '61. (MIRA 14:10)

1. Predsedatel' Tul'skogo soveta narodnogo khozyaystva.
(Mining engineering--Safety measures) (Automation)

KHRUSHCHEV, N.S.; PODGORNYY, N.V.; ZASYAD'KO, A.F.; RUDAKOV, A.P.; KAZANETS, I.P.; SHILIN, A.A.; MEL'NIKOV, N.V.; BURMISTROV, A.A.; SHEVCHENKO, V.V.; MAYAKOV, L.I.; ROZENKO, P.A.; KUZ'MICH, A.S.; ZADEMIDKO, A.N.; BRATCHENKO, B.F.; STRUYEV, A.I.; KRASNIKOVSKIY, G.V.; BOYKO, A.A.; KAGAN, F.Ya.; USKOV, A.A.; VLADYCHENKO, I.M.; TOPCHIYEV, A.V.; DEGTYAREV, V.I.; KHUDOSOVTSEV, N.M.; GRAFOV, L.Ye.; IVANOV, V.A.; KRATENKO, I.M.; GOLUB, A.D.; IVONIN, I.P.; SAVCHENKO, A.A.; ROZHCHENKO, Ye.N.; CHERNEGOV, A.S.; MARKELOV, M.N.; LALAYANTS, A.M.; GAPONENKO, F.T.; POLUEKTOV, I.A.; SKLYAR, D.S.; PONOMARENKO, N.F.; POTAPOV, A.I.; POLYAKOV, N.V.; SUBBOTIN, A.A.; POLSTYANOY, G.N.; TRUKHIN, P.M.; TKACHENKO, A.G.; OSTROVSKIY, S.B.; NYRTSEV, M.P.; DYADYK, I.I.; SHPAN'KO, T.P.; RUBCHENKO, V.P.

Kondrat Ivanovich Pochenkov; obituary. Sov. shakht. 11 no.9: 48 S '62. (MIRA 15:9)

(Pochenkov, Kondrat Ivanovich, 1905-1962)

KOZLOV, F.R.; KOSYGIN, A.N.; ZASYAD'KO, A.F.; NESMEYANOV, A.N.; ANTROPOV, P.Ya.; YELYUTIN, V.P.; RUDAKOV, A.P.; KIRILLIN, V.A.; TOPCHIYEV, Aleksandr V.; BLAGONRAVOV, A.A.; SHEVYAKOV, L.D.; SHILIN, A.A.; MEL'NIKOV, N.V.; KRASNIKOVSKIY, G.V.; TOPCHIYEV, Aleksey V.; BOYKO, A.A.; BRATCHENKO, B.F.; GRAFOV, L.Ye.; KUZ'MICH, A.S.; KRATENKO, I.M.; MAN'KOVSKIY, G.I.; PLAKSIN, I.N.; AGOSHKOV, M.I.; SPIVAKOVSKIY, A.O.; POCHENKOV, K.I.; KRASOZOV, I.P.; KOZHEVIN, G.V.; LINDENAU, N.I.; KUZNETSOV, K.K.

Academician A.A.Skochinskii; obituary. Mast.ugl. 9 no.11:22 N '60. (MIRA 13:12)
(Skochinskii, Aleksandr Aleksandrovich, 1873-1960)

KOZLOV, F.R.; KOSYGIN, A.N.; ZASYAD'KO, A.E.; NESMEYANOV, A.N.; ANTROPOV, P.Ya.; YELYUTIN, V.P.; RUDAKOV, A.P.; KIRILLIN, V.A.; TOPCHIYEV, Al-dr V.; BLAGONRAVOV, A.A.; SHEVYAKOV, L.D.; SHILIN, A.A.; MEL'NIKOV, N.V.; KRASNIKOVSKIY, G.V.; TOPCHIYEV, A-y V.; BOYKO, A.A.; BRATCHENKO, B.F.; GRAFOV, L.Ye.; KUZ'MICH, A.S.; KRATENKO, I.M.; MAN'KOVSKIY, G.I.; PLAKSIN, I.N.; AGOSHKOV, M.I.; SPIVAKOVSKIY, A.O.; POCHENKOV, K.I.; KRASOZOV, I.P.; KOZHEVIN, G.V.; LINDENAU, N.I.; KUZNETSOV, K.K.

Academician A.A.Skochinskii; obituary. Bezop.truda v prom. 4 no.11: 18-19 N '60. (MIRA 13:11)
(Skochinskii, Aleksandr Aleksandrovich, 1873-1960)

KRATENKO, I.M.

For complete utilization of mining methods and technology.
Ugol' 38 no.6:1-5 Je '63. (MIRA 16:8)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta po toplivnoy promyshlennosti pri Gosplane SSSR.
(Coal mines and mining)

AZIMOV, S.A.; KRATENKO, Yu.P.; KNAVIN, L.S.

Measuring the absorption free path of nuclear active particles in water by means of ionization chambers. Dokl. AN Uz.SSR no.10: 14-16 '59 (MIRA 13:3)

1. Sredneaziatskiy gosuniversitet imeni V.I. Lenina. Predstavleno akademikom AN UzSSR S. V. Starodubtsevym.
(Particles, Elementary)

S/058/61/000/010/023/100
A001/A101

AUTHORS: Azimov, S.A., Kratenko, Yu.P., Khavin, L.S., Yuldashev, A.A., Karimov, R.

TITLE: On absorption of nuclear-active high-energy particles in air and dense absorber

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 97, abstract 10B509 ("Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, v. 1", Moscow, AN SSSR, 1960, 204 - 208)

TEXT: To investigate absorption of nuclear-active particles in the energy range 10^{10} - 10^{12} ev in air and a dense absorber, the authors employed a counter installation, an installation with ionization chambers and an installation with a telescope.

[Abstracter's note: Complete translation]

Card 1/1

S/058/63/000/001/047/120
A160/A101

24.6600

AUTHORS: Azimov, S. A., Abdullayev, R. S., Kochetkov, O. A., Kratenko, Yu. P., Polyak, Yu. V., Pryakhin, Ye. A.

TITLE: The interaction of nucleoactive particles with an energy of $\geq 2 \cdot 10^{11}$ ev - with lead nuclei

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 33, abstract 1V220 ("Dokl. AN UzSSR", no. 1, 1962, 9 - 13, summary in Uzbek)

TEXT: An investigation was carried out of the interaction of nucleoactive particles with an energy of more than $2 \cdot 10^{11}$ ev with lead nuclei at a height of 3,160 m above sea level with the help of an installation consisting of hodoscopic counters and ten rows of ionization pulse chambers between which absorber layers were placed. It was established that the mean value of the coefficient K_{π^0} which characterizes the part of the energy transmitted to the π^0-mesons by the nucleoactive particles during the collision equals $\bar{K}_{\pi^0} = 0,31 \pm 0,02$. An analysis carried out of the effect of the avalanches resulting from the secondary interactions revealed that the secondary interactions do not contribute an essential error in

Card 1/2

the determination of the individual values $K_{\pi}o$. The distribution of the number of the cases $N (\geqslant K_{\pi}o)$, integrated over $K_{\pi}o$, was also obtained for $K_{\pi}o \geqslant 0.1$. It was found that the number of the cases with an energy transmission to πo-mesons in the region $K_{\pi} > 0.2$ is subjected to the law $N (> K_{\pi}o) \sim \ln K_{\pi}o$. For the differential distribution in $K_{\pi}o$, this corresponds to the relation $N \sim 1/K_{\pi}o$.

V. Guzhavin

[Abstracter's note: Complete translation]

Card 2/2

L 10077-63 EWT(m)/BDS--AFFTC/ASD

ACCESSION NR: AR3000344 S/0058/63/000/004/A033/A033

54

SOURCE: RZh. Fizika, Abs. 4A285

AUTHOR: Azimov, S. A.; Abdullayev, R. S.; Kratenko, Yu. P.; Polyak, Yu. V.

TITLE: Multichannel pulse-height analyzer to operate with a large number of ionization chambers

9 10

CITED SOURCE: Dokl. AN UzSSR, no. 8, 1961, 13-17

TOPIC TAGS: Pulse height analyzer, ionization hodoscope, optical recording

TRANSLATION: A multichannel pulse height analyzer is described, intended to operate with a large number of ionization chambers and permitting simultaneous ionization measurements to be made with each. The analyzer consists of a large number of independent sections of identical construction, the number of which is equal to the number of ionization chambers. Each section is a separate pulse height analyzer, consisting of a preamplifier, a main amplifier, amplitude-time converter, and a coincidence circuit. The voltage pulses from the ionization

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ACCESSION NR: AR3000344 0

chamber are amplified and fed to the amplitude-time converter. The square pulse from the converter is fed through a neon lamp, which ignites during the time of action of this pulse. Neon lamps from all the sections of the analyzer are located on the common standard post of the hodoscopic apparatus type GK-5. At the instant of arrival of the master pulse, the lens of a motion picture camera is uncovered and the film begins to be drawn uniformly with the aid of a synchronous motor. The tracks of the glowing neon lamps and time markers are photographed on the film. The length of the track of the glowing neon lamp on the motion picture film makes it possible to determine the magnitude of the pulse from the corresponding ionization chamber. In practice, the capacity of the registration system (the number of analyzer sections) is determined by the resolution of the photographic equipment and can be raised to a value of several hundred.

DATE ACQ: 14May63 ENCL: 00 SUB CODE: PH

lm/ja
Card 2/2

KRATHY, S.

Development of the chemical processing of coal in Czechoslovakia. p. 544.

Vol. 5, no. 12, Dec. 1955
ZA SOCIALISTICKOU VEDU A TECHNIKU
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5 No. 4 April 1956

KRATIN, YU. G.

KRATIN, YU. G. -- "Electroencephalography and Certain Problems of the Analysor Activity of Man." Acad Sci USSR, Inst of Physiology imeni I. P. Pavlov. Leningrad, 1955. (Dissertation for the Degree of Candidate of Biological Sciences.)

SO: Knizhnaya letopis', No. 4., Moscow, 1956

KRATIN, Yu.G.

Method of registering changes in electric potentials of the vocal muscles. Zhur.vyssh.nerv.deiat. 5 no.4:591-594 Jl-Ag '55. (MLRA 8:11)

1. Laboratoriya fiziologii zritel'nogo analizatora Instituta fiziologii im. I.P.Pavlova AN SSSR.
(VOCAL CORDS, physiology,
electric potentials, registration)

KRATIN, Yu.G.

Reflection of the dynamics of development of the orientation reaction in fluctuations of electrical potential in the human brain. Fiziol.zhur.41 no.5:676-683 S-O '55. (MLRA 8:12)

1. Laboratoriya fiziologii zritel'nogo analizatora Instituta fiziologii im. I.P.Pavlova AN SSSR, Leningrad.
(ORIENTATION,
EEG in orientation to sound stimuli in man)
(ELECTROENCEPHALOGRAPHY,
in orientation reaction to sound stimuli in man)

EXCERPTA MEDICA Sec.2 Vol.10/10 Phy.Biochem. Oct 57

KRATIN Y. G.

4415. KRATIN Y.G. I.P.Pavlov Inst. of Physiol., Leningrad. *Some aspects of cortical analysis as reflected in the human electro-encephalogram (Russian text) FIZIOL. Z. 1957, 43/2 (134-144) Graphs 2

Low voltage slow activity ('B stage EEG pattern') was obtained in ten subjects after a series of rhythmical sounds. A conditioned motor reaction in response sound of definite tone was obtained by means of combining the sound with a verb order. Other tones were used as differentiation stimuli. After repeated stimulation the indifferent sounds produced but an insignificant change in the EEG patter. whereas the signal stimulus was regularly followed by a prolonged burst of alpha-rhythm. Therefore, the appearance of the alpha-rhythm (temporary shift to 'stage A EEG pattern') appears to be connected with the excitation process which changes the functional level of the brain. A narrow differentiation stimulus also produced an outburst of alpha-rhythm, the latter being the more intense, the narrower the differentiation, i.e. the more complicated the analysis. During the development of conditioned reflexes a burst of alpha-rhythm in response to the auditory stimulus preceded the conditioned motor reaction. It may be assumed, that such a volley of electrical activity, representing a temporary shift of the EEG pattern, is related to the activity of the cerebral analysing system, since it is also observed in the absence of any effector reaction, that is at a stage when excitation has not spread to the effector part of the reflex mechanism within the central nervous system.

Simonson - Minneapolis, Minn.

KRATIN, Yu G.

"The dependence of electroencephalogram rhythms on the analyzing activity of the brain".

report presented at a Joint Session of the Biological Dept. of AN USSR and Biological and Medical Depts. AN Gruziya SSR, Tbilisi, 28- Sept 3- Oct 1957. Vestnik Akad. Nauk SSSR, 1958, Vol. 28, No. 1, pp. 121-125. (author Dzidzishvili, N. N.)

KRATIN, Yu.G.; YUGANSON, B.Yu.

Automatic control board for a soundproof chamber. Zhur. vys. nerv. deiat. 9 no.6:941-947 N-D '59. (MIRA 13:9)

1. Pavlov Physiology Institute, U.S.S.R. Academy of Sciences, Leningrad.
(PHYSIOLOGICAL APPARATUS)

KRATIN, Yu.G.

Analysis of so-called indifferent stimuli based on human electroencephalograms [with summary in English]. Fiziol.zhur. 45 no.1: 16-23 Ja '59. (MIRA 12:2)

1. From the I.P. Pavlov Institute of Physiology, Leningrad.
(ELECTROENCEPHALOGRAPHY,
eff. of indifferent sound stimuli (Rus))
(SOUNDS,
indifferent sound stimuli, eff. on EEG (Rus))
(REFLEX,
eff of refelx reactions to indifferent stimuli on EEG (Rus))

KRATIN, Yu.G.

"The waking brain" by H.W. Magoun. Reviewed by IU.G. Kratin. Fiziol. zhur. 45 no.12:1506-1509 D '59. (MIRA 13:4)

1. Institut fiziologii im. Pavlova AN SSSR, Leningrad.
(BRAIN) (MAGOUN, H.W.)

GOLIKOV, N.V., otv.red.; KRATIN, Yu.G., otv.red.; ADAMOVICH, N.A., red.; BORGEST, A.N., red.; DANILOV, I.V., red.; VASIL'YEVA, Z.A., red. izd-va; SMIRNOVA, A.V., tekhn.red.

[Problems in electrophysiology and oncephalography; transactions of the first all-Union conference, Leningrad, May 8-11, 1957] Voprosy elektrofiziologii i entsefalografii; trudy 1-i Vsesoiuznoi konferentsii, Leningrad 8-11 maia 1957 g. Moskva, Izd-vo Akad. nauk SSSR, 1960. 399 p. (MIRA 13:2)

1. Vsesoyuznoye fiziologicheskoye obshchestvo. 2. Fiziologicheskiy institut im. akadm.A.A.Ukhtomskogo Leningradskogo gosudarstvennogo universiteta im. A.A.Zhdanova (for Golikov). 3. Institut fiziologii im. I.P.Pavlova AN SSSR, Leningrad (for Kratin). 4. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad (for Danilov).
(ELECTROPHYSIOLOGY)

KRATIN, Yu.G.

Generalized changes in the electroencephalogram of the cat during the differentiation of stimuli. Trudy Inst. fiziol. 10:63-73 '62
(MIRA 17:3)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti (zav. - F.P.Mayorov) Instituta fiziologii imeni Pavlova AN SSSR.

Krntic. 4/4 6

5

PHASE I BOOK EXPLOITATION SOV/6205

Makarchenko, A. F., Resp. Ed.

Osnovnyye voprosy elektrofiziologii tsentral'noy nervnoy sistemy (Basic Problems in the Electrophysiology of the Central Nervous System) Kiyev, Izd-vo AN UkrSSR, 1962. 231 p. Errata slip inserted. 1600 copies printed.

Sponsoring Agency: Vsesoyuznoye fiziologicheskoye obshchestvo im. I. P. Pavlova. Institut fiziologii im. A. A. Bogomol'tsa Akademii nauk USSR.

Eds.: A. F. Makarchenko, Resp. Ed.; D. S. Vorontsov, P. G. Kostyuk, F. N. Serkov; Resp. Secretary: I. P. Semenyutin; Tech. Ed.: Yu. M. Bokhno.

PURPOSE: This book is intended for physiologists who are interested in recent advances in electrophysiology.

Card 1/3

Basic Problems in the (Cont.) SOV/6205

COVERAGE: The present book is a collection of articles presented at the Symposium on Electrophysiology held in Kiyev on 1-2 July 1961. The articles in the collection are grouped into the following sections: 1) Electrophysiology of neurons (sensory, motor, and relay neurons of the spinal cord, and neurons of the retina); 2) Induced electrical potentials of the cerebral cortex; and 3) Background rhythms of the cerebral cortex. References are given following the individual chapters. No personalities are mentioned.

TABLE OF CONTENTS:

General Problems of Neuron Electrophysiology (P. G. Kostyuk, Kiyev) 5

Electrophysiology of Retinal Neurons (A. L. Byzov, Moscow) 29

Electrophysiology of Neurons of the Spinal Ganglia of Frogs (A. A. Lev, Leningrad) 40

Basic Problems in the (Cont.) SOV/6205

Primary Responses of the Cerebral Cortex (A. I. Roytbak, Tbilisi) 75

Some Peculiarities of Electric Potentials Induced in the Cerebral Cortex (V. A. Artem'yev, Leningrad) 96

Secondary Bioelectric Reactions of the Cerebral Cortex (K. M. Kyllanda, Moscow) 110

Nature of the Background Rhythms of the Cerebral Cortex (Ye. N. Sokolov, Moscow) 157

Some Factors Determining Changes in EEG Rhythms (Yu. G. Kratin, Leningrad) 189

Mechanism of Variations in the Background Rhythms of the Cerebral Cortex (L. A. Novikova, Moscow) 201

AVAILABLE: Library of Congress

SUBJECT: Biology and Medicine

Card 3/3

IS/dmp/bc
2-12-63

KRATIN, Yuriy Gennadiyevich; BEKHTEREVA, Nataliya Petrovna; GUSEYNIKOV, Vladimir Ivanovich; KOZHEVNIKOV, Valeriy Aleksandrovich; SENICHENKOV, Boris Tikhonovich; USOV, Vladimir Vasil'yevich; KATINAS, G.S., red.izd-va; ZAMARAYEVA, R.A., tekhn. red.

[Technique and methods of encephalography] Tekhnika i metodiki elektroentsefalografii. [By] IU.G.Kratin i dr. Moskva, Izd-vo AN SSSR, 1963. 312 p. (MIRA 16:10)
(Encephalography)

KRATIN, Yu.G.

Electroencephalographic studies of cerebral activity in man during trace and delayed conditioned response. Zhur.vys.nerv.deiat 14 no. 1:23-32 Ja-F '64. (MIRA 17:6)

1. Laboratoriya fiziologii i eksperimental'noy patologii vysshey deyatel'nosti Instituta fiziologii im. I.P.Pavlova AN SSSR.

K[illegible]TIN, Yu.G.

Changes in the primary response of the auditory zone of the cerebral cortex under the effect of sound of a long-interval rhythm. Nauch.soob. Inst.fiziol. AN SSSR no.3:77-83 '65.
(MIRA 18:5)

1. Laboratoriya fiziologii i eksperimental'noy patologii vysshey nervnoy deyatel'nosti (zav. - F.P.Mayorov [deceased]) Instituta fiziologii imeni Pavlova AN SSSR.

KRATIN, Yu.G.; PROPP, M.V.

Effect of estrogens on the electric activity of the hypothalamus and cerebral cortex of young and old female rabbits. Fiziol. zhur. 51 no.1:37-46 Ja '65. (MIRA 18:7)

1. Institut fiziologii imeni Pavlova AN SSSR, Leningrad.

KRATIN, Yu.G.; ANDREYEVA, V.N.

Variations in the action of differentiation signals in conditioned motor alimentary reflexes in cats. Zhur. vys. nerv. deiat. 16 no. 1: 3-13 Ja-F '66 (MIRA 19:2)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti Instituta fiziologii imeni I.P. Pavlova AN SSSR. Submitted December 14, 1964.

GETLIK, A.; KRATINA, V.; ZILAKOVA, M.

Appendicitis in a hernia of a 28-day-old infant. Cesk. pediat. 16 no.9:837-838 S '61.

1. Slovensky ustav pre doskolovanie lekarov v Trencine, pediatricka katedra, veduci dr. A. Getlik Chirurgicke odd. OUNZ v Trencine, prednosta dr. S. Omanik.

(APPENDICITIS in inf & child)
(HERNIA INGUINAL in inf & child)

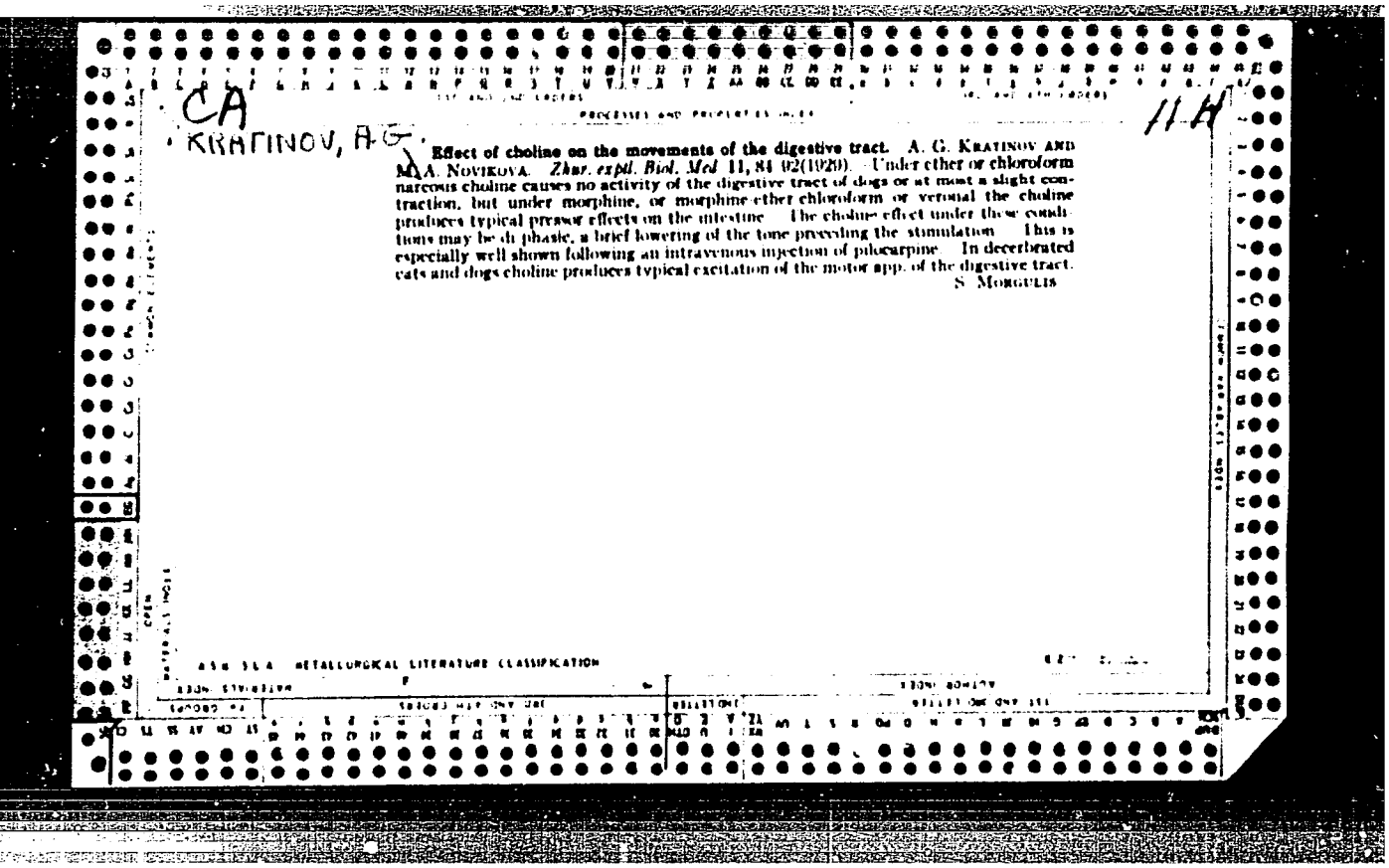
OMANIK, S.; KRATINA, V.; MALEC, I.

Four unusual chest injuries. Rozhl. chir. 44 no.4:250-254 Ap'65.

1. Chirurgicke oddelenie nemocnice Obvodniho ustavu narodniho zdravi v Trencine (veduci: MUDr. S. Omanik).

KRATINA, Ye.; ZABULIKA, V., red.; TELPIS, V., tekhn. red.

[How we obtained 161 centners of corn per hectare] Kum am obtsinut kyte 161 chentnere de pepushoi la khektar. Kishineu, Editura de stat "Kartia moldoveniaske," 1959. 13 p. (Kak my poluchili 161 tsentner kukuruzy s gektara) (MIRA 14:10)
(Moldavia—Corn (Maize))

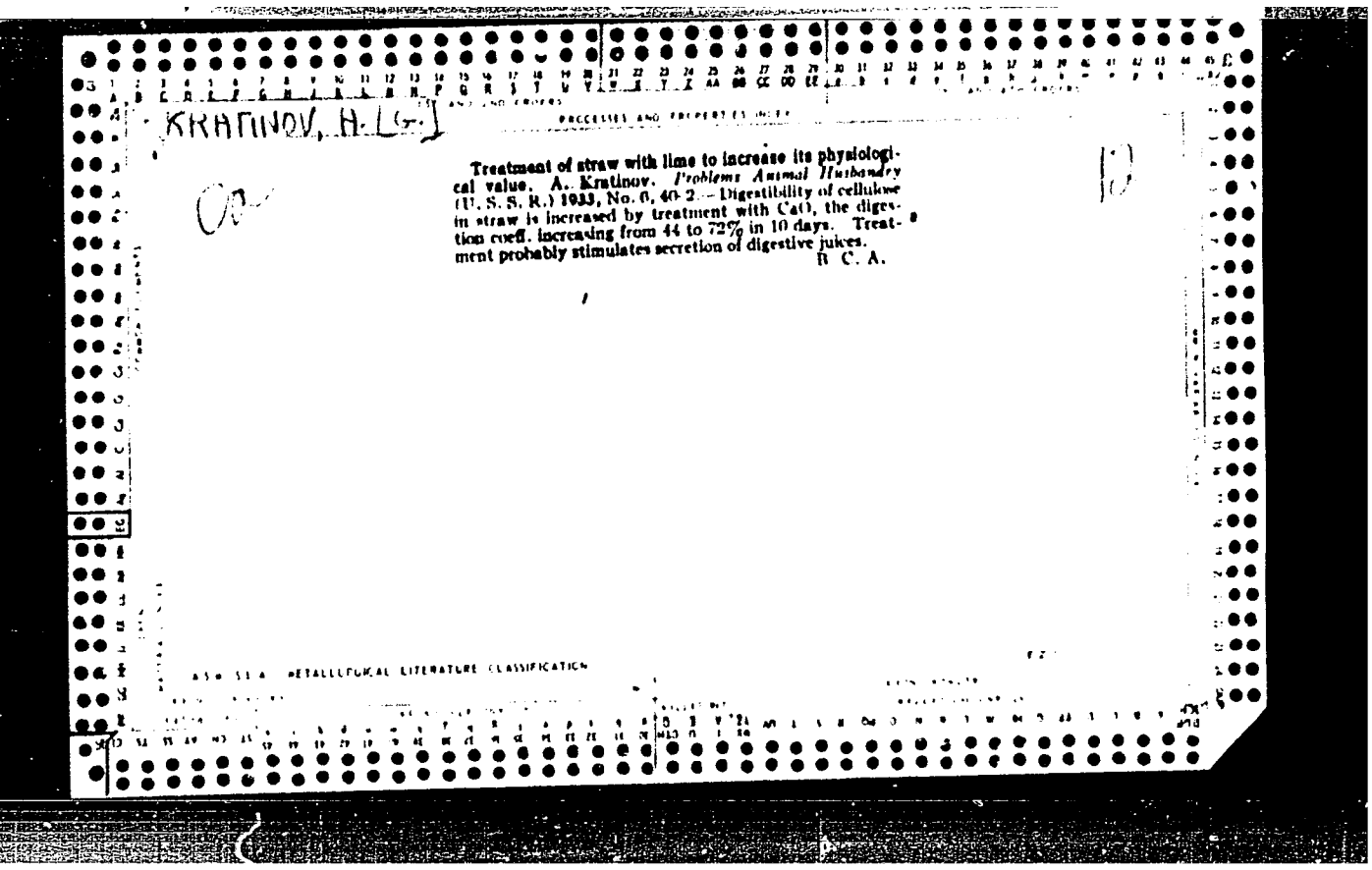


CA

KRATINOV, A.G.

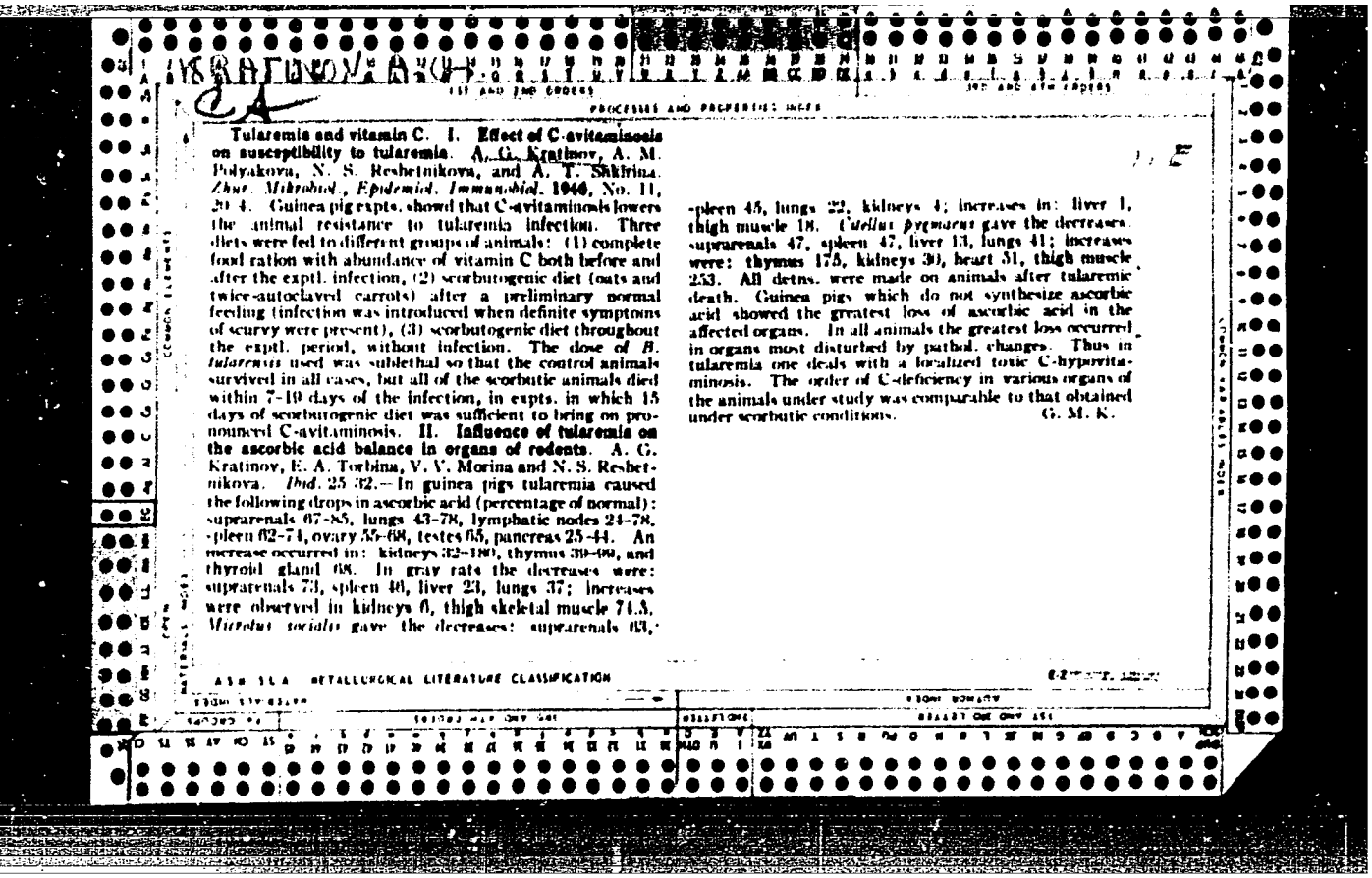
11-H

Effect of choline on the movements of the digestive tract. A. G. KRATINOV AND M. A. NOVIKOVA. *Zhur. expl. Biol. Med* 11, 84-92(1929). Under ether or chloroform narcosis choline causes no activity of the digestive tract of dogs or at most a slight contraction, but under morphine, or morphine-ether-chloroform or veronal the choline produces typical pressor effects on the intestine. The choline effect under these conditions may be di phasic, a brief lowering of the tone preceding the stimulation. This is especially well shown following an intravenous injection of pilocarpine. In decerebrated cats and dogs choline produces typical excitation of the motor app. of the digestive tract.
S. Morgulis



KRATINOV, A. L.

Treatment of straw with lime to increase its physiological value. A. Kratinov. *Problems Animal Husbandry* (U. S. S. R.) 1933, No. 6, 40-2.—Digestibility of cellulose in straw is increased by treatment with $Ca(OH)_2$, the digestion coeff. increasing from 44 to 72% in 10 days. Treatment probably stimulates secretion of digestive juices.
R. C. A.



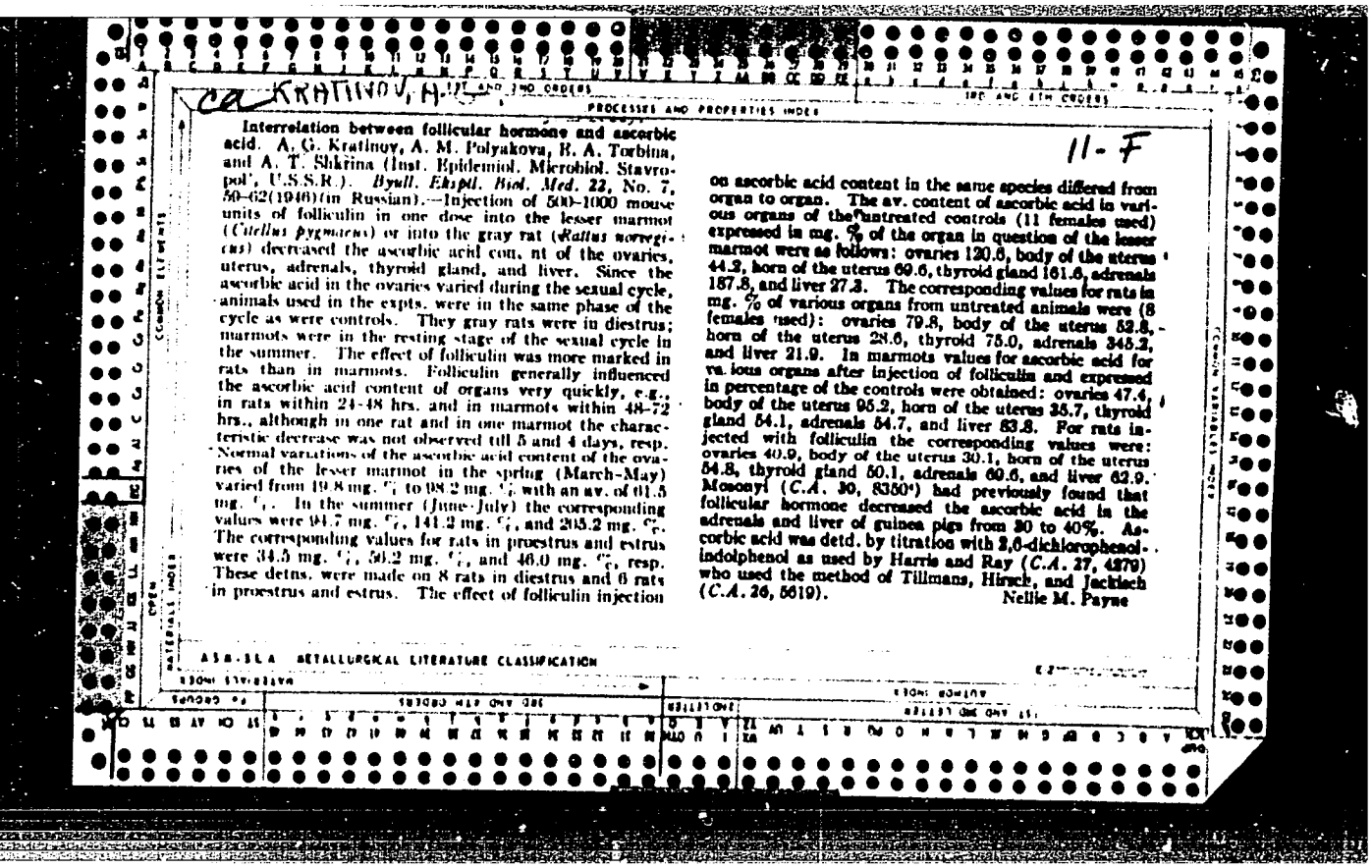
KRATINOVA, A.G.

CA

PROCESSES AND PROPERTIES: INDEX

Tularemia and vitamin C. I. Effect of C-avitaminosis on susceptibility to tularemia. A. G. Kratinov, A. M. Polyakova, N. S. Reshetnikova, and A. T. Shkirina. *Zhur. Mikrobiol., Epidemiol. Immunobiol.* **1946**, No. 11, 20-4. Guinea pig expts. showed that C-avitaminosis lowers the animal resistance to tularemia infection. Three diets were fed to different groups of animals: (1) complete food ration with abundance of vitamin C both before and after the exptl. infection, (2) scorbutogenic diet (oats and twice-autoclaved carrots) after a preliminary normal feeding (infection was introduced when definite symptoms of scurvy were present), (3) scorbutogenic diet throughout the exptl. period, without infection. The dose of *B. tularensis* used was sublethal so that the control animals survived in all cases, but all of the scorbutic animals died within 7-10 days of the infection, in expts. in which 15 days of scorbutogenic diet was sufficient to bring on pronounced C-avitaminosis. **II. Influence of tularemia on the ascorbic acid balance in organs of rodents.** A. G. Kratinov, E. A. Tovbina, V. V. Morina and N. S. Reshetnikova. *Ibid.* 25 :32.—In guinea pigs tularemia caused the following drops in ascorbic acid (percentage of normal): suprarenals 67-85, lungs 43-78, lymphatic nodes 24-78, spleen 62-74, ovary 57-68, testes 65, pancreas 25-44. An increase occurred in: kidneys 32-180, thymus 39-99, and thyroid gland 68. In gray rats the decreases were: suprarenals 73, spleen 40, liver 23, lungs 37; increases were observed in kidneys 6, thigh skeletal muscle 74.5. *Microtus socialis* gave the decreases: suprarenals 63, spleen 45, lungs 22, kidneys 4; increases in: liver 1, thigh muscle 18. *Citellus pygmaeus* gave the decreases: suprarenals 47, spleen 47, liver 13, lungs 41; increases were: thymus 175, kidneys 30, heart 31, thigh muscle 253. All detns. were made on animals after tularemic death. Guinea pigs which do not synthesize ascorbic acid showed the greatest loss of ascorbic acid in the affected organs. In all animals the greatest loss occurred in organs most disturbed by pathol. changes. Thus in tularemia one deals with a localized toxic C-hypovitaminosis. The order of C-deficiency in various organs of the animals under study was comparable to that obtained under scorbutic conditions. G. M. K.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION



ca KRATINOV, A.

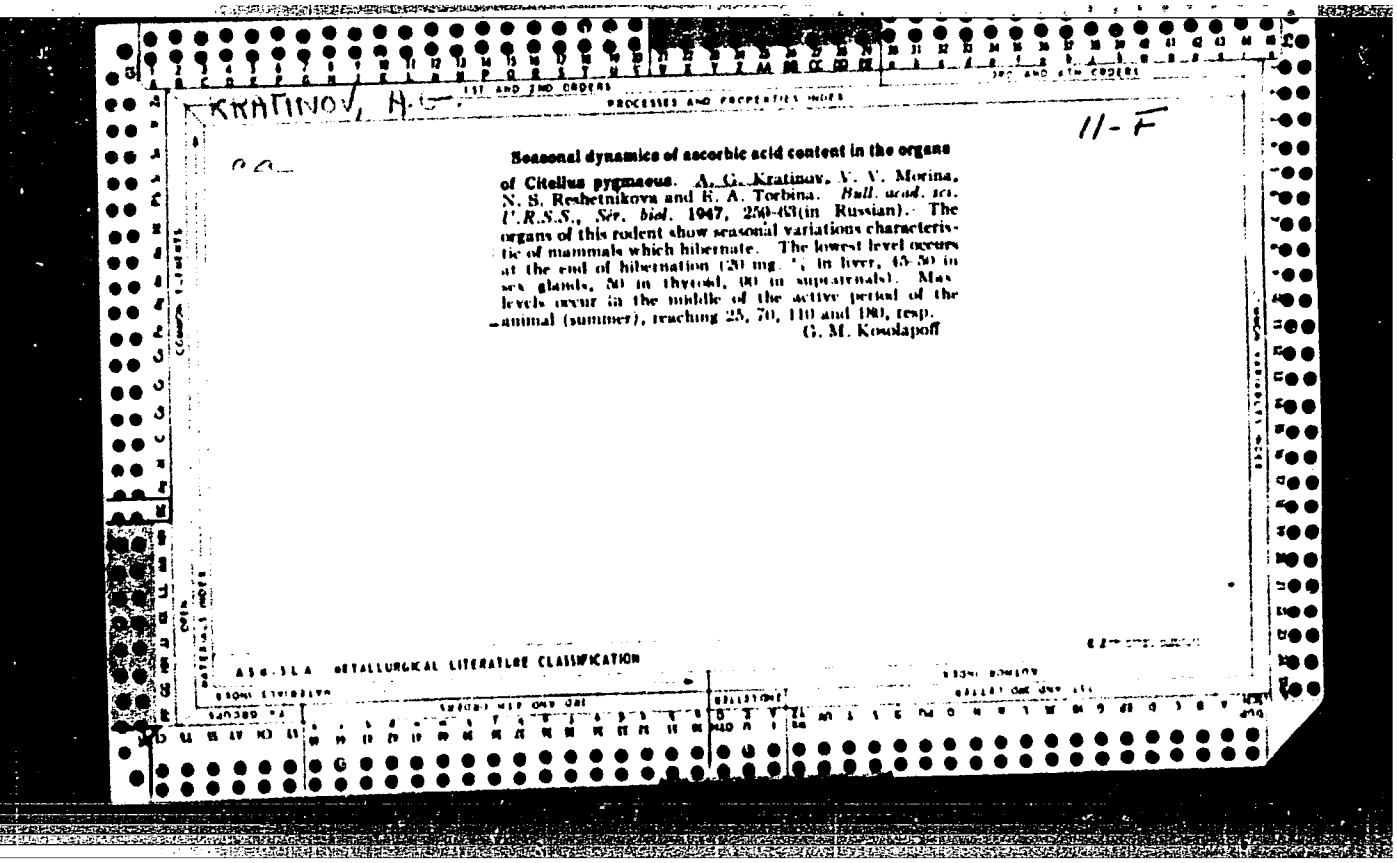
PROCESSES AND PROPERTIES INDEX

11-F

Interrelation between follicular hormone and ascorbic acid. A. G. Kratinov, A. M. Polyakova, R. A. Torbina, and A. T. Shkrina (Inst. Epidemiol. Microbiol. Stavropol', U.S.S.R.). *Byull. Eksptl. Biol. Med.* 22, No. 7, 50–62(1946)(in Russian).—Injection of 500–1000 mouse units of folliculin in one dose into the lesser marmot (*Citellus pygmaeus*) or into the gray rat (*Rattus norvegicus*) decreased the ascorbic acid content of the ovaries, uterus, adrenals, thyroid gland, and liver. Since the ascorbic acid in the ovaries varied during the sexual cycle, animals used in the expts. were in the same phase of the cycle as were controls. They gray rats were in diestrus; marmots were in the resting stage of the sexual cycle in the summer. The effect of folliculin was more marked in rats than in marmots. Folliculin generally influenced the ascorbic acid content of organs very quickly, e.g., in rats within 24–48 hrs. and in marmots within 48–72 hrs., although in one rat and in one marmot the characteristic decrease was not observed till 5 and 4 days, resp. Normal variations of the ascorbic acid content of the ovaries of the lesser marmot in the spring (March–May) varied from 19.8 mg. % to 98.2 mg. % with an av. of 61.5 mg. %. In the summer (June–July) the corresponding values were 94.7 mg. %, 141.2 mg. %, and 205.2 mg. %. The corresponding values for rats in proestrus and estrus were 34.5 mg. %, 50.2 mg. %, and 46.0 mg. %, resp. These detns. were made on 8 rats in diestrus and 6 rats in proestrus and estrus. The effect of folliculin injection on ascorbic acid content in the same species differed from organ to organ. The av. content of ascorbic acid in various organs of the untreated controls (11 females used) expressed in mg. % of the organ in question of the lesser marmot were as follows: ovaries 120.6, body of the uterus 44.2, horn of the uterus 69.6, thyroid gland 161.6, adrenals 187.8, and liver 27.3. The corresponding values for rats in mg. % of various organs from untreated animals were (8 females used): ovaries 79.8, body of the uterus 52.8, horn of the uterus 28.6, thyroid 75.0, adrenals 345.2, and liver 21.9. In marmots values for ascorbic acid for various organs after injection of folliculin and expressed in percentage of the controls were obtained: ovaries 47.4, body of the uterus 95.2, horn of the uterus 35.7, thyroid gland 54.1, adrenals 54.7, and liver 83.8. For rats injected with folliculin the corresponding values were: ovaries 40.9, body of the uterus 30.1, horn of the uterus 54.8, thyroid gland 50.1, adrenals 69.6, and liver 62.9. Mosonyi (*C.A.* 30, 8350[4]) had previously found that follicular hormone decreased the ascorbic acid in the adrenals and liver of guinea pigs from 30 to 40%. Ascorbic acid was detd. by titration with 2,6-dichlorophenol-indolphenol as used by Harris and Ray (*C.A.* 27, 4279) who used the method of Tillmans, Hirsch, and Jacklich (*C.A.* 26, 5619).

Nellie M. Payne

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION



KRATINOV, A. G.

11-F

Seasonal dynamics of ascorbic acid content in the organs of Citellus pygmaeus. A. G. Kratinov, V. V. Morina, N. S. Reshetnikova and E. A. Torbina. *Bull. acad. sci. U.R.S.S., Sér. biol.* 1947, 250-63(in Russian). The organs of this rodent show seasonal variations characteristic of mammals which hibernate. The lowest level occurs at the end of hibernation (20 mg. %, in liver, 45-50 in sex glands, 50 in thyroid, 80 in suprarenals). Max. levels occur in the middle of the active period of the animal (summer), reaching 25, 70, 110 and 180, resp.

G. M. Kosolapoff

KRATINOV, A. G.

1A 1T78

USSR/Medicine - Immunology Feb 1947
Bacterial Toxins

"Concerning the Mechanism of Innate Immunity of Some Reptiles to Bacterial Toxins," A G Kratinov, 3 pp

"Byul Eksper Med I Biol" Vol XXIII, No 2

Results of experiments with reptiles

1T78

KRATINOV, A.G.,; MAKSIMENKO, M.A.

The effect of plague microbes and their toxic substances on the sensitivity of the organism to histamine. Zhur. miktobiol. epid. i immun. 27 no.2:83-91 F'56. (MLRA 9:5)

1. Iz Nauchno-issledovatel'skogo instituta Kavkaza i Zakavkaz'ya Ministerstva zdravookhraneniya SSSR.

(PLAGUES, exper.
eff. of Basteurella pestis on sensitivity of white mice & guinea pigs to histamins)
(HISTAMINE, eff.
sensitivity of white mice & guinea pigs, eff. of Pasteurella pestis)

KRATINOV, A.G.; KHAR'KOVA, N.M.

Glycemic reactions to adrenaline, insulin and histamine in plague intoxication. Vop. med. khim. 7 no.3:277-285 My-Je '61. (MIRA 15:3)

1. Laboratory for Pathophysiology of the Anti-Plague Institute of the Caucasus and Transcaucasus.
(PLAGUE) (BLOOD SUGAR) (ADRENALINE)
(INSULIN) (HISTAMINE)

KHATINOV, A.G.; KHAR'KOVA, N.M.

New data on the reactivity of the body to histamine in plague intoxication. Zhur. mikrobiol., epid. i immun. 32 no.9:135-136 S '61. (MIRA 15:2)

1. Iz Nauchno-issledovatel'skogo i protivichumnogo instituta Kavkaza i Zakavkaz'ya.

(HISTAMINE) (PLAGUE)

KRATINOV, A.G.; KHAR'KOVA, N.M.

Species differences in carbohydrate and ascorbic acid metabolism disorders in rodents with plague intoxication. Biul. eksp. biol. i med. 51 no.5:63-67 My '61. (MIRA 14:8)

1. Iz laboratorii patofiziologii (zav. - prof. A.G.Kratinov) Nauchno-issledovatel'skogo protivochumnogo instituta Kavkaza i Zakavkaz'ya (dir. - V.N.Ter-Vartanov), Stavropol'. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Zhukovym-Verezhnikovym.
(CARBOHYDRATE METABOLISM) (ASCORBIC ACID)
(PLAGUE)

NIKOLAYEV, N.I., otv. red.; LENSKAYA, G.N., zam. otv. red.; PASTUKHOV, B.N., zam. otv. red.; FENYUK, B.K., zam. otv. red.; ISHUNINA, T.I., red.; AKIYEV, A.K., red.; DOMARADSKIY, I.V., red.; DROZHEVKINA, M.S., red.; ZHOVTYY, I.F., red.; KOROBKOVA, Ye.I., red.; KRAMINSKIY, V.A., red.; KRATINOV, A.G., red.; LEVI, M.I., red.; LOBANOV, V.N., red.; MIRONOV, N.P., red.; PETROV, V.S., red.; PLANKINA, Z.A., red.; PYPINA, I.M., red.; SMIRNOV, S.M., red.; TER-VARTANOV, V.N., red.; TIFLOV, V.Ye., red.; FEDOROV, V.N., red.; PARNES, Ya.A., red.; PRONINA, N.D., tekhn. red.

[Especially dangerous natural focus infections] Osobo opasnye i prirodnoochagovye infektsii; sbornik nauchnykh rabot protivochumnykh uchrezhdenii. Moskva, Medgiz, 1962. 271 p. (MIRA 16:5)

(COMMUNICABLE DISEASES)

KRATINOV, Ye., vtoroy shturman; SOBOLEV, L., starshiy nauchnyy sotrudnik

Ventilation system and air drying in the holds of the steamer "Leninskii Komsomol." Mor.flot 22 no.1:26-29 Ja '62. (MIRA 15:1)

1. Parokhod "Leninskiy komsomol" (for Kratinov). 2. TSentral'nyy nauchno-issledovatel'skiy institut morskogo flota (for Sobolev).
(Ships--Air conditioning)

KOLAR,O.; KRATINOVA,I.

Apropos of the cerebrospinal fluid diagnosis of subacute panencephalitis in relation to multiple sclerosis. Cesk. neurol. 27 no.2:117-122 Mr'64

1. Neurologicka klinika lekarske fakulty PU v Olomouci, prednosta: prof. dr. J.Hrbek, DrSc.

*

ACC NR: AR5023521 SOURCE CODE : UR/0275/65/000/008/A031/A032

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 8A235

AUTHOR: Kratirov, I. A.

TITLE: Calculating the field of a stack of closely-spaced flat capacitors

CITED SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 21, 1964, 79-86

TOPIC TAGS: capacitor, flat capacitor, electric field

TRANSLATION: A calculation of the field of a bank of flat stacked capacitors is presented. The spacing between the capacitors does not exceed that between the plates of an individual capacitor. The problem is solved by a method of conformal mapping. An experimental verification, on an electroconducting-paper simulator, corroborated the applicability of the formulas for calculating the field in finite-plate-width capacitors.

SUB CODE: 09

Card 1/1 UDC: 621.385.832.001

KRATKO, M.I.

Algorithmic insolvability of the problem of recognition of completeness for finite automata. Dokl. AN SSSR 155 no.1: 36-37 Mr '64. (MIRA 17:4)

1. Institut matematiki s vychislitel'nym tsentrom Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom A.I.Mal'tsevym.

MALEK, P.; ROKOS, J.; BURGER, M.; KOLC, J.; KRATKOVA, E.; PROCHAZKA, P.

Effect of chlortetracycline on exzymes & its practical significance. Cas. lek. cesk. 98 no.9:262-266 27 Feb 59.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel doc. dr. B. Spacek. Biologicky ustav CSAV v Praze, reditel akademik I. Malek. Detska interna Thomayerovy nemocnice v Praze, prednosta prim. dr. E. Kratkova. P. M., Praha-Krc, Budejovicka 800.

(CHLORTETRACYCLINE, eff.
on pancreatic alpha amylase & lipase, eff. of citric acid (Cz))
(AMYLASES
pancreatic alpha amylase, inhib. by chlortetracycline (Cz))
(LIPASES
inhib. by chlortetracycline, eff. of citric acid (Cz))
(PANCREAS, metab.
alpha amylase & lipase, inhib. eff. of chlortetracycline, reversal by citric acid (Cz))
(CITRATES, eff.
citric acid on inhib. of pancreatic alpha amylase & lipase by chlortetracycli (Cz))

KRATINOVA, V.

Contracts with the painters Filip Huber and Antonin Muller for their mural paintings in the Chruch of St. Mary in the Snow and the Jesuit College at Olomouc. p. 311. (Biulleten Astronomicheskikh Institutov Chekhoslovakii. Bulletin of the Astronomical Institutes of Czechoslovakia. Vol. 41, 1956.)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

KRATINOVA, Ye.R.; LEVITINA, P.Ye.

Effect of ultraviolet erythema doses on excretion of creatinine in children with rickets. Vopr. pediat. 19 no.2:13-16 1951. (CLML 20:8)

1. Of Khar'kov Scientific Research Institute for the Care of Mothers and Children (Director--Candidate Medical Sciences A.G. Logunova).

KRATIROV, A.D.; GOL'DIN, O.Ye.; SAVENKO, V.G.; PINES, G.Ya.; KOCHENOVA, A.I.; GREYMER, L.K.; ARONOVICH, I.S.; KHOLYAVSKIY, G.B.

Professor V.B. Romanovskii. Elektrichestvo no.2:92 F '56. (MLRA 9:5)

(Romanovskii, Vladimir Borisovich, 1896-)

AUTHOR: Kratirov, A.D. Sov/106-58-2-9/16

TITLE: Measurement of the Peak and Instantaneous Values of Periodic Voltages and Currents (Izmereniye pikovykh i mgnovennykh znacheniy periodicheskikh napryazheniy i tokov)

PERIODICAL: Elektrosvyaz', 1958, Nr 2, pp 65 - 70 (USSR).

ABSTRACT: It is a truism that the difference between two values of a time function separated by a certain time interval is equal to the integral of the derivative of the function over the same interval. This enables peak-to-peak values to be measured on an average-reading instrument. Figures 1 to 4 show methods of taking the derivative of voltages or currents. In Figures 1 and 4, the scale factor includes the mutual inductance of the transformer and the resistance of the load (meter); in Figures 2 and 3, the factor involves the value of a coupling ("differentiating") capacitor. By using a rectifier type instrument and knowing the periodic frequency, the peak-to-peak value of, for example, the ripple from a power supply may be measured. Figure 5 shows how the method may be generalised to measure the algebraic difference between instantaneous values half a period apart in a periodic voltage or current. In effect, the rectifiers are replaced by polarised relays whose coils are

Cardl/2

fed from the same supply as the quantity being measured but taken first through a phase shifter. The arrangement may now be used as a high-sensitivity oscillograph or for measuring harmonics. A similar instrument is being used at the Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnical Institute im. M.I. Kalinin). There are 5 figures and 2 Soviet references.

SUBMITTED: September 3, 1956

Card 2/2

1. Electric current--Measurement 2. Voltage--Measurement
3. Oscillograph--Applications

SUKHIKH, A.A.; KRATIROV, D.A.

Treating bundles of export lumber with antiseptics. Der. prom. 14 no.5:20-21 My '65. (MIRA 18:6)

1. Arkhangel'skiy lesopil'no-derevoobrabatyvayushchiy kombinat imeni V.I. Lenina.

KRATIROV, D. A.

33199. Nash Opyt povysheniya Proizvoditel'nos ti Lesopil'nogo Oborudovaniya. (Leszavd Im. Lenina). Les. Prom-St', 1949, No. 10, c. 16-17

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949